



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,996	07/21/2003	Geoffrey C. Chick	02103-550001 / AABOSW18	5478
26162	7590	12/28/2005	EXAMINER	
FISH & RICHARDSON PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			NGUYEN, TUAN DUC	
			ART UNIT	PAPER NUMBER
			2646	

DATE MAILED: 12/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/623,996

Applicant(s)

CHICK ET AL.

Examiner

Tuan D. Nguyen

Art Unit

2646

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) 11, 12, 15, 16 and 21-33 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3-8 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 9, 10, 13, 14 and 17-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-33 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>12/22/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. This application contains claims directed to the following patentably distinct species of the claimed invention:

Claims 1-33 are directed to 4 species as illustrated in figures 1-13. 4 species are identified as below.

Species 1 – claims 1-10, 13, 14 and 17-20, directed to an acoustic device with a passive radiator module.

Species 2 – claims 15, 16, 21-26 and 30, directed to an acoustic device with more than two drivers.

Species 3 – claims 27-29, directed to an acoustic device with more than 2 passive radiators.

Species 4 – claims 9, 11, 12 and 31-33, directed to an acoustic device with a passive radiator module wherein the first passive radiator and the second passive radiator are mounted in the enclosure so that a vector sum of the magnitudes of the first inertial force and the second inertial force is less than either of the magnitudes of the first inertial force and the magnitudes of the second inertial force.
2. Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be

restricted if no generic claim is finally held to be allowable. Currently, no claim is generic.

3. Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.
4. Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).
5. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

6. During a telephone conversation with Charles Hieken on 11/22/05 a provisional election was made without traverse to prosecute the invention of Species I, claims 1-10, 13, 14 and 17-20. Affirmation of this election must be made by applicant in replying to this Office action. Claims 11, 12, 15, 16, and 21-33 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.
7. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
9. Claims 1 and 2 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "said cavity" in page 23 lines 10-11. It is unclear which cavity is referred to.

Regarding claim 2, limitation is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c).

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1, 2, 9, 10, 13, 14 and 17-20 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. patent number 5,850,460 (Tanaka et al).
- Regarding claims 1 and 2, Tanaka et al discloses an acoustic device, comprising: an acoustic enclosure (figure 1) having an exterior surface and enclosing an interior volume and further having an aperture in said exterior surface; a first acoustic driver (2a) and a second acoustic driver (2b), each having a first radiating surface, mounted so that said first radiating surface faces said enclosure interior volume; a passive radiator module (1a, 1b), comprising a closed three dimensional structure defining a cavity (5) with an opening, mounted in said aperture to define a cavity in said enclosure, separated from said interior volume; a first passive radiator (1a) and a second passive radiator (1b), each having a radiating

Art Unit: 2646

element having two opposing surfaces, mounted in said module so that one of said surfaces faces said cavity; and a baffle (4a) structure in said enclosure between said first acoustic driver and said first passive radiator from said second acoustic driver and said second passive radiator.

Regarding claim 9, Tanaka et al discloses an acoustic device comprising, an acoustic enclosure (figure 1) bounded by a three dimensional bounding figure said enclosure having walls defining an enclosure interior volume, an acoustic driver (2a) having a first surface and a second surface about a first axis, wherein said acoustic driver is mounted in said acoustic enclosure so that said first surface faces said interior volume, a cavity (5) in said acoustic enclosure lying substantially within said bounding figure, and a first passive radiator (1a) having a first surface and a second surface and an intended direction of motion along a second axis (4a), mounted in said acoustic enclosure so that said first passive radiator first surface faces said cavity and said passive radiator second surface faces said enclosure interior, wherein said acoustic enclosure is constructed and arranged so that all acoustic paths between said acoustic driver first surface and said cavity include said first passive radiator.

Regarding claim 10, Tanaka et al further discloses a second passive radiator (1b) having a first surface and a second surface and an intended direction of motion along a third axis (4b), said second passive radiator mounted so that second passive radiator first surface faces said cavity

and said second passive radiator second surface faces said enclosure interior, said second passive radiator further mounted so that said first passive radiator intended direction of motion and said second passive radiator intended direction of motion are substantially parallel, wherein said acoustic enclosure is constructed and arranged so that all acoustic paths between said acoustic driver first surface and said cavity include said first passive radiator or said second passive radiator.

Regarding claim 13, Tanaka et al also shows the acoustic driver having an intended direction of motion wherein said acoustic driver intended direction of motion is substantially parallel with at least one of said first passive radiator intended direction of motion and said second passive radiator intended direction of motion (see figure 1).

Regarding claim 14, Tanaka et al further discloses an acoustic driver (1b) mounted in said acoustic enclosure so that said acoustic driver radiates acoustic energy into said interior volume, a plurality of passive radiators acoustically coupling said interior volume and said cavity, and wherein all acoustic paths from said acoustic driver through said interior volume to said cavity include at least one of said plurality of passive radiators.

Regarding claim 17. Tanaka et al also shows wherein said acoustic device is constructed and arranged so that said first passive radiator and said second passive radiator vibrate mechanically out of phase responsive to

said acoustic energy radiated into said interior volume by said acoustic driver (see figure 1).

Regarding claim 18, Tanaka et al discloses wherein said second axis (4a) and said third axis (4b) are coincident.

Regarding claim 19, Tanaka et al discloses wherein said coincident second (4a) and third (4b) axes are parallel with said first axis (3a).

Regarding claim 20, Tanaka et al also discloses wherein said second axis (4a) and said third axis (4b) are parallel with said first axis (3a).

Allowable Subject Matter

Claims 3-8 are allowed. None of the prior art teaches a module for use in an acoustic enclosure, comprising a closed three dimensional structure defining a cavity with an opening, a first passive radiator having a vibratile element having a first and a second surface and further having an intended direction of motion along a first axis, said first passive radiator mounted in said structure so that said first surface faces said cavity, said first passive radiator characterized by a mass and a surface area, a second passive radiator having a vibratile element having a first and a second surface and further having an intended direction of motion along a second axis, said second passive radiator mounted in said structure so that said first surface faces said cavity, said second passive radiator characterized by a mass and a surface area, wherein said first passive

radiator and said second passive radiator are positioned so that said first passive radiator intended direction of motion and said second passive radiator intended direction of motion are substantially parallel and wherein said first passive radiator vibratile element and said second passive vibratile passive element are noncoplanar, and wherein said module is constructed and arranged to be insertable in a first aperture in an acoustic enclosure enclosing an interior volume so that said first passive radiator second surface faces said interior volume and so that said second passive radiator second surface faces said interior volume.


Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan D. Nguyen whose telephone number is (571) 272-8163. The examiner can normally be reached on M-F 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on (571) 272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TDN
12/19/05



SUHAN N.
PRIMARY EXAMINER